CLAIMS

I claim:

1. A system for detecting and annunciating when a loss of occupancy detection in transit systems, such as a train operating on rails and controlled by an automatic train control system, goes undetected with said system using speed commands received behind, or in front, of the train and comprised of an:

Automatic train operation system communicating with a speed command comparison device; communicating with a controller device; that controls the reception or transmission of speed commands and formatting of a Global Position System receiver's output data, speed commands and decoded data received from said speed command comparison device whose data output is supplied to an optical transceiver; radio frequency transceiver; train line transceiver; or traction power transceiver for the purpose of detecting and annunciating when a train whose presence should be detected and annunciated goes undetected and unannounced.

2. The system as recited in claim 1, further comprising a speed and data decoding device comprised of computer electronics and software algorithms as a means of decoding control data and speed commands received from an on board automatic train control system for the purpose of detecting a valid nonzero speed command and ancillary data.

3. The system as recited in claim 1, wherein said controller being comprised of computer electronics and software algorithms as a means of formatting, selecting, and communicating with a Global Positing System's receiver output and; a radio frequency transceiver; optical transceiver; a train line transceiver and a traction power transceiver to communicate the loss of occupancy detection to train and wayside authorities

4. The system as recited in claim 1, further comprising of an optical transceiver itself comprised of laser, infrared, or other optical spectra transceivers whose purpose is to communicate the loss of occupancy detection to train and wayside authorities.

5. The device as recited in claim 1, wherein said radio frequency transceiver comprised of electromagnetic spectra transmitter-receiver equipment necessary to communicate the loss of occupancy detection to train and wayside authorities with a high degree of reliability.

6. The device as recited in claim 1, further comprised of a train line transceiver capable of communicating with existing train communications equipment to annunciate the loss of occupancy detection to train authority without interference.

7. The device as recited in claim 1, wherein said traction power transceiver with the capability to communicate over traction power couplings to annunciate the loss of occupancy detection to wayside authorities with a high degree of immunity from electrical noise.